

NMCP COVID-19 Literature Report #29: Tuesday, 14 July 2020

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Purpose: These reports are curated collections of current research, evidence reviews, and news regarding the COVID-19 pandemic; they are biweekly, planned for Tuesdays and Fridays. Please feel free to reach out with questions and suggestions for future topics.

All reports are available online at <https://nmcp.libguides.com/covidreport>. Access is private; you will need to use the direct link or bookmark the URL, along with the case-sensitive password "NMCPfinest".

Disclaimer: I am not a medical professional. This document is current as of the date noted above. While I make every effort to find and summarize available data, things are changing rapidly, with new research and potentially conflicting literature published daily.

Statistics

Global 13,145,302 confirmed cases and 573,869 deaths in 188 countries/regions

*United States** top 5 states by cases (Virginia is ranked 15th)

	TOTAL US	NY	CA	FL	TX	NJ
Confirmed Cases	3,366,845	402,263	334,921	282,435	269,778	175,522
Tested	41,004,275	4,724,882	5,544,365	2,639,574	2,540,125	1,700,385
Recovered	NA	71,643	NA	NA	136,419	31,261
Deaths	135,802	32,395	7,099	4,277	3,276	15,560

*see census.gov for current US Population data; NA: not all data available

[JHU CSSE](https://jhu.csse) as of 1100 EDT 14 July 2020

Virginia	Total	Chesapeake	Hampton	Newport News	Norfolk	Portsmouth	Suffolk	Virginia Beach
Cases	72,443	1,379	568	856	1,606	761	612	1,993
Hospitalized	6,817	159	42	49	132	88	68	140
Deaths	1,977	23	4	10	16	19	42	32

[VA DOH](https://vadoh.virginia.gov) as of 1100 EDT 14 July 2020

As of 22 June, Navy statistics, previously provided via Navy Live blog, will no longer be included as they are only updated weekly. See: <https://navylive.dodlive.mil/2020/03/15/u-s-navy-covid-19-updates/>

Selected Primary Literature

Of Special Note

[JAMA](#): Pathophysiology, Transmission, Diagnosis, and Treatment of Coronavirus Disease 2019 (COVID-19): A Review (10 July 2020)

"The coronavirus disease 2019 (COVID-19) pandemic, due to the novel severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has caused a worldwide sudden and substantial increase in hospitalizations for pneumonia with multiorgan disease. This review discusses current evidence regarding the pathophysiology, transmission, diagnosis, and management of COVID-19."

Recent—published in peer-reviewed journals since last report

[J Adolesc Health](#): Medical Vulnerability of Young Adults to Severe COVID-19 Illness—Data From the National Health Interview Survey (13 July 2020)

"A young adult subsample (aged 18–25 years) was developed from the National Health Interview Survey, a nationally representative data set, pooling years 2016–2108. The medical vulnerability measure (yes vs. no) was developed, guided by the Centers for Disease Control and Prevention risk indicators. The estimates of medical vulnerability were developed for the full sample, the nonsmoking sample, and the individual risk indicators. Logistic regressions were conducted to examine differences by sex, race/ethnicity, income, and insurance.

Medical vulnerability was 32% for the full sample and half that (16%) for the nonsmoking sample. Patterns and significance of some subgroup differences differed between the full and the nonsmoking sample. Male vulnerability was (33%) higher than female (30%; 95% CI: .7–.9) in the full sample, but lower in nonsmokers: male (14%) versus female (19%; 95% CI: 1.2–1.7). The white subgroup had higher vulnerability than Hispanic and Asian subgroups in both samples—full sample: white (31%) versus Hispanic (24%; 95% CI: .6–.9) and Asian (18%; 95% CI: .4–.5); nonsmokers: white (17%) versus Hispanic (13%; 95% CI: .06–.9) and Asian (10%; 95% CI: .3–.8).

Notably, lower young adult medical vulnerability within nonsmokers versus the full sample underscores the importance of smoking prevention and mitigation."

[Nature](#): A perspective on potential antibody-dependent enhancement of SARS-CoV-2 (13 July 2020)

"The possibility of antibody-dependent enhancement (ADE) of disease is a general concern for the development of vaccines and antibody therapies because the mechanisms that underlie antibody protection have the theoretical potential to amplify viral infections or

trigger immunopathology. Observations relevant to the risks of ADE of disease require careful review at this critical point in the SARS-CoV-2 pandemic. At present, no clinical findings, immunologic assays or biomarkers are known to differentiate any severe viral infection from immune-enhanced disease, whether by antibodies, T cells or intrinsic host responses. In vitro systems and animal models do not predict the risk of ADE of disease, in part because protective and potentially detrimental antibody-mediated mechanisms are the same, and designing animal models depends on understanding how antiviral host responses may become harmful in people. The implications of our lack of knowledge are twofold. First, comprehensive studies are urgently needed to define clinical correlates of protective immunity against SARS-CoV-2. Second, since we cannot predict ADE of disease reliably after either vaccination or treatment with antibodies, regardless of what virus is the causative agent, it will be essential to depend on careful analysis of safety in humans as immune interventions for COVID-19 disease move forward."

Nat Med: Xenogeneic cross-circulation for extracorporeal recovery of injured human lungs (13 July 2020)

"Patients awaiting lung transplantation face high wait-list mortality, as injury precludes the use of most donor lungs. Although ex vivo lung perfusion (EVLP) is able to recover marginal quality donor lungs, extension of normothermic support beyond 6 h has been challenging. Here we demonstrate that acutely injured human lungs declined for transplantation, including a lung that failed to recover on EVLP, can be recovered by cross-circulation of whole blood between explanted human lungs and a Yorkshire swine. This xenogeneic platform provided explanted human lungs a supportive, physiologic milieu and systemic regulation that resulted in functional and histological recovery after 24 h of normothermic support. Our findings suggest that cross-circulation can serve as a complementary approach to clinical EVLP to recover injured donor lungs that could not otherwise be utilized for transplantation, as well as a translational research platform for immunomodulation and advanced organ bioengineering."

Clin Infect Dis: Tocilizumab for treatment of mechanically ventilated patients with COVID-19 (11 July 2020)

"We assessed effectiveness and safety of IL-6 blockade with tocilizumab in a single-center cohort of patients with COVID-19 requiring mechanical ventilation. The primary endpoint was survival probability post-intubation; secondary analyses included an ordinal illness severity scale integrating superinfections. Outcomes in patients who received tocilizumab compared to tocilizumab-untreated controls were evaluated using multivariable Cox regression with propensity score inverse probability weighting (IPTW)."

154 patients were included, of whom 78 received tocilizumab and 76 did not. Median follow-up was 47 days (range 28-67). Baseline characteristics were similar between groups, although tocilizumab-treated patients were younger (mean 55 vs. 60 years), less likely to

have chronic pulmonary disease (10% vs. 28%), and had lower D-dimer values at time of intubation (median 2.4 vs. 6.5 mg/dL). In IPTW-adjusted models, tocilizumab was associated with a 45% reduction in hazard of death [hazard ratio 0.55 (95% CI 0.33, 0.90)] and improved status on the ordinal outcome scale [odds ratio per 1-level increase: 0.58 (0.36, 0.94)]. Though tocilizumab was associated with an increased proportion of patients with superinfections (54% vs. 26%; p<0.001), there was no difference in 28-day case fatality rate among tocilizumab-treated patients with versus without superinfection [22% vs. 15%; p=0.42]. *Staphylococcus aureus* accounted for ~50% of bacterial pneumonia.

In this cohort of mechanically ventilated COVID-19 patients, tocilizumab was associated with lower mortality despite higher superinfection occurrence."

[JAMA](#): Change in the Incidence of Stillbirth and Preterm Delivery During the COVID-19 Pandemic (10 July 2020)

"This study demonstrates an increase in the stillbirth rate during the pandemic. A direct consequence of SARS-CoV-2 infection is possible. Although none of the stillbirths in the pandemic period were among women with COVID-19, surveillance studies in pregnant women reported that as much as 90% of SARS-CoV-2-positive cases were asymptomatic. Moreover, until recently, UK national policy limited testing to symptomatic individuals requiring hospitalization. Alternatively, the increase in stillbirths may have resulted from indirect effects such as reluctance to attend hospital when needed (eg, with reduced fetal movements), fear of contracting infection, or not wanting to add to the National Health Service burden. Changes in obstetric services may have played a role secondary to staff shortages or reduced antenatal visits, ultrasound scans, and/or screening. Although differences in the populations in the 2 periods were observed, the lower proportion of nulliparous and hypertensive women during the pandemic period would have been expected to be associated with a lower rather than higher risk of stillbirth. However, hypertension in pregnancy may have been underdiagnosed during the pandemic as women had fewer face-to-face antenatal visits."

[Lancet](#): An adult with Kawasaki-like multisystem inflammatory syndrome associated with COVID-19 (10 July 2020)

"We highlight this case to draw attention to the presence of a Kawasaki-like multisystem hyperinflammatory syndrome in an adult with SARS-CoV-2 infection and note clinical improvement following administration of anticoagulation, intravenous immunoglobulin, and tocilizumab. We emphasise the importance of multidisciplinary care and recognition of the possibility of this syndrome across specialties, as provision of care for our patient necessitated coordinated efforts between specialists in emergency medicine, internal medicine, infectious diseases, cardiology, rheumatology, dermatology, and ophthalmology. Although this patient's Kawasaki-like presentation bears a strong resemblance to MIS-C, as recently described in paediatric cohorts, we acknowledge that this isolated case may

represent a spurious finding rather than an instance of a larger disease pattern. Nevertheless, we present this case to raise awareness of a potential MIS-C-like condition in adults. Further investigation is warranted to better elucidate the possibility of an MIS-C analogue syndrome in adults as we continue to expand our understanding of SARS-CoV-2-related syndromes."

[Lancet Haematol](#): Haematological characteristics and risk factors in the classification and prognosis evaluation of COVID-19: a retrospective cohort study (10 July 2020)

"This retrospective cohort study focuses on haematological and coagulation parameters in patients with moderate, severe, and critical COVID-19, along with specific analyses of coagulopathy in non-survivors. We found that some haematological indicators varied with disease severity. And the incidence of coagulopathy in non-survivors was high, with abnormalities in coagulation tests or typical signs, including thrombotic complications, bleeding, and unexplained organ failure. Furthermore, the combination of neutrophil to lymphocyte ratio, platelet count, D-dimer, and prothrombin time might provide clues for recognising poor prognosis.

Dynamically monitoring haematological and coagulation parameters, such as neutrophil to lymphocyte ratio, platelet count, D-dimer, and prothrombin time might provide a reliable and convenient method for classifying and predicting the severity and outcomes of patients with COVID-19. Regularly assessing and screening the conditions of thrombosis and early disseminated intravascular coagulation among patients with severe or critical disease is necessary. Prophylactic strategies, including anticoagulation therapy, might potentially prevent patient deterioration and improve survival."

[MMWR](#): Characteristics of Persons Who Died with COVID-19 — United States, February 12–May 18, 2020 (10 July 2020)

"COVID-19 mortality is higher in persons with underlying medical conditions and in those aged ≥ 85 years.

Analysis of supplementary data for 10,647 decedents in 16 public health jurisdictions found that a majority were aged ≥ 65 years and most had underlying medical conditions. Overall, 34.9% of Hispanic and 29.5% of nonwhite decedents were aged < 65 years, compared with 13.2% of white, non-Hispanic decedents. Among decedents aged < 65 years, a total of 7.8% died in an emergency department or at home.

Understanding factors contributing to racial/ethnic mortality differences and out-of-hospital deaths might inform targeted communication to encourage persons in at-risk groups to practice preventive measures and promptly seek medical care if they become ill."

Nat Med: Extrapulmonary manifestations of COVID-19 (10 July 2020)

"Although COVID-19 is most well known for causing substantial respiratory pathology, it can also result in several extrapulmonary manifestations. These conditions include thrombotic complications, myocardial dysfunction and arrhythmia, acute coronary syndromes, acute kidney injury, gastrointestinal symptoms, hepatocellular injury, hyperglycemia and ketosis, neurologic illnesses, ocular symptoms, and dermatologic complications. Given that ACE2, the entry receptor for the causative coronavirus SARS-CoV-2, is expressed in multiple extrapulmonary tissues, direct viral tissue damage is a plausible mechanism of injury. In addition, endothelial damage and thromboinflammation, dysregulation of immune responses, and maladaptation of ACE2-related pathways might all contribute to these extrapulmonary manifestations of COVID-19. Here we review the extrapulmonary organ-specific pathophysiology, presentations and management considerations for patients with COVID-19 to aid clinicians and scientists in recognizing and monitoring the spectrum of manifestations, and in developing research priorities and therapeutic strategies for all organ systems involved."

Nat Med: Rapid isolation and profiling of a diverse panel of human monoclonal antibodies targeting the SARS-CoV-2 spike protein (10 July 2020)

"Antibodies are a principal determinant of immunity for most RNA viruses and have promise to reduce infection or disease during major epidemics. The novel coronavirus SARS-CoV-2 has caused a global pandemic with millions of infections and hundreds of thousands of deaths to date^{1,2}. In response, we used a rapid antibody discovery platform to isolate hundreds of human monoclonal antibodies (mAbs) against the SARS-CoV-2 spike (S) protein. We stratify these mAbs into five major classes on the basis of their reactivity to subdomains of S protein as well as their cross-reactivity to SARS-CoV. Many of these mAbs inhibit infection of authentic SARS-CoV-2 virus, with most neutralizing mAbs recognizing the receptor-binding domain (RBD) of S. This work defines sites of vulnerability on SARS-CoV-2 S and demonstrates the speed and robustness of advanced antibody discovery platforms."

This paper was originally posted at bioRxiv as a preprint on 13 May 2020:

<https://www.biorxiv.org/content/10.1101/2020.05.12.091462v1>

AJR: CT Manifestations of Coronavirus Disease (COVID-19) Pneumonia and Influenza Virus Pneumonia: A Comparative Study (09 July 2020)

"We conducted a retrospective study of 52 patients with COVID-19 pneumonia and 45 patients with influenza virus pneumonia. All patients had positive results for the respective viruses from nucleic acid testing and had complete clinical data and CT images. CT findings of pulmonary inflammation, CT score, and length of largest lesion were evaluated in all patients. Mean density, volume, and mass of lesions were further calculated using artificial intelligence software. CT findings and clinical data were evaluated.

Between the group of patients with COVID-19 pneumonia and the group of patients with influenza virus pneumonia, the largest lesion close to the pleura (i.e., no pulmonary parenchyma between the lesion and the pleura), mucoid impaction, presence of pleural effusion, and axial distribution showed statistical difference ($p < 0.05$). The properties of the largest lesion, presence of ground-glass opacity, presence of consolidation, mosaic attenuation, bronchial wall thickening, centrilobular nodules, interlobular septal thickening, crazy paving pattern, air bronchogram, unilateral or bilateral distribution, and longitudinal distribution did not show significant differences ($p > 0.05$). In addition, no significant difference was seen in CT score, length of the largest lesion, mean density, volume, or mass of the lesions between the two groups ($p > 0.05$).

Most lesions in patients with COVID-19 pneumonia were located in the peripheral zone and close to the pleura, whereas influenza virus pneumonia was more prone to show mucoid impaction and pleural effusion. However, differentiating between COVID-19 pneumonia and influenza virus pneumonia in clinical practice remains difficult."

[Circ Arrhythm Electrophysiol](#): Lopinavir-ritonavir Treatment for COVID-19 Infection in Intensive Care Unit: Risk of Bradycardia (09 July 2020)

"We prospectively included 41 Covid-19 patients who received LPV/RTV [lopinavir/ritonavir] treatment. Nine (22%) patients experienced bradycardia (Table1). No patients had pre-existing nodal pathology on the ECG on admission. Among the 9 cases of bradycardia, 8 (88%) were sinus bradycardia and one (12%) third degree atrioventricular block. Causality may be considered as bradycardia occurred at least 48 h after LPV/RTV initiation, bradycardia resolved after discontinuation or dose reduction of LPV/RTV and no alternative cause was found. ... None of the patients had any known cytochrome CYP3A4-inhibiting drugs.

Our results suggest that RTV plasma overdose in elderly critical ill patients may increase the risk of bradycardia."

[JAMA](#): Persistent Symptoms in Patients After Acute COVID-19 (09 July 2020)

"In the waning phase of the pandemic, beginning on April 21, 2020, the Fondazione Policlinico Universitario Agostino Gemelli IRCCS in Rome, Italy, established a postacute outpatient service for individuals discharged from the hospital after recovery from COVID-19....

This study found that in patients who had recovered from COVID-19, 87.4% reported persistence of at least 1 symptom, particularly fatigue and dyspnea. Limitations of the study include the lack of information on symptom history before acute COVID-19 illness and the lack of details on symptom severity. Furthermore, this is a single-center study with a relatively small number of patients and without a control group of patients discharged for

other reasons. Patients with community-acquired pneumonia can also have persistent symptoms, suggesting that these findings may not be exclusive to COVID-19."

[PNAS](#): BCG vaccine protection from severe coronavirus disease 2019 (COVID-19) (09 July 2020)

"The COVID-19 pandemic is one of the most devastating in recent history. The bacillus Calmette–Guérin (BCG) vaccine against tuberculosis also confers broad protection against other infectious diseases, and it has been proposed that it could reduce the severity of COVID-19. This epidemiological study assessed the global linkage between BCG vaccination and COVID-19 mortality. Signals of BCG vaccination effect on COVID-19 mortality are influenced by social, economic, and demographic differences between countries. After mitigating multiple confounding factors, several significant associations between BCG vaccination and reduced COVID-19 deaths were observed. This study highlights the need for mechanistic studies behind the effect of BCG vaccination on COVID-19, and for clinical evaluation of the effectiveness of BCG vaccination to protect from severe COVID-19."

ICYMI: Older Articles

[Lancet Microbe](#): SARS-CoV-2 in fruit bats, ferrets, pigs, and chickens: an experimental transmission study (07 July 2020)

"We found that neither pigs nor chickens showed any signs of infection and none of the contact animals became infected. This finding is of particular importance for risk analysis in these farmed animals, which are kept in large numbers and in contact with humans. Moreover, the virus replicated in the upper respiratory tract of fruit bats, and was transmitted to contact animals. This finding indicates that fruit bats, which are kept and bred in captivity, can serve as a reservoir host model, but also emphasises the risk to free-living bats (eg, in ecological bat protection programmes). Finally, ferret infections resulted in a high replication rate of SARS-CoV-2 in the nasal cavity, as confirmed by immunohistochemistry and *in situ* hybridisation. The transmission to contacts was highly efficient and high virus titres were detected in the ferrets' nasal cavities. We showed that only minor viral adaptions occurred during infection of ferrets with a human SARS-CoV-2 isolate. Our results suggest that the ferret is a highly suitable model for testing vaccines and antiviral treatment for their effect on viral excretion and transmission.

Our results support previous findings indicating a negligible risk of anthropozoonotic transmission to pigs and chickens, but a substantial risk for bats and ferrets. Fruit bats show a different pattern of infection than ferrets, but both can serve as model animals. Because of distinct differences, for example in the immune system, between humans and bats, bats are not considered suitable models for testing preventive or therapeutic measures but might represent an appropriate model for a potential reservoir host. However, infection in

ferrets, next to that in non-human primates, most closely resembles human infection and therefore ferrets could be used as an animal model for testing vaccines and antivirals."

Preprints—not yet peer-reviewed papers

[arXiv](#), [bioRxiv](#), and [medRxiv](#) are preprint servers: "[T]hese are preliminary reports that have not been peer-reviewed. They should not be relied on to guide clinical practice or health-related behavior and should not be reported in news media as established information."

[medRxiv](#): Subsequent waves of viral pandemics, a hint for the future course of the SARS-CoV-2 pandemic (posted 14 July 2020)

"It is unknown if the SARS-CoV-2 pandemic will have a second wave. We analysed published data of five influenza pandemics (such as the Spanish Flu and the Swine Flu) and the SARS-CoV-1 pandemic to describe whether there were subsequent waves and how they differed.

We reanalysed literature and WHO reports on SARS-CoV-1 and literature on five influenza pandemics. We report frequencies of second and third waves, wave heights, wavelengths and time between subsequent waves. From this, we estimated peak-to-peak ratios to compare the wave heights, and wave-length-to-wave-length ratios to compare the wavelengths differences in days. Furthermore, we analysed the seasonality of the wave peaks and the time between the peak values of two waves.

Second waves, the Spanish Flu excluded, were usually about the same height and length as first waves and were observed in 93% of the 57 described epidemic events of influenza pandemics and in 42% of the 19 epidemic events of the SARS-CoV-1 pandemic. Third waves occurred in 54% of the 28 influenza and in 11% of the 19 SARS-CoV-1 epidemic events. Third waves, the Spanish Flu excluded, usually peaked higher than second waves with a peak-to-peak ratio of 0.5.

While influenza epidemics are usually accompanied by 2nd waves, this is only the case in the minority of SARS-CoV1 epidemics."

[medRxiv](#): Longitudinal evaluation and decline of antibody responses in SARS-CoV-2 infection (posted 11 July 2020)

"Antibody (Ab) responses to SARS-CoV-2 can be detected in most infected individuals 10-15 days following the onset of COVID-19 symptoms. However, due to the recent emergence of this virus in the human population it is not yet known how long these Ab responses will be maintained or whether they will provide protection from re-infection. Using sequential serum samples collected up to 94 days post onset of symptoms (POS) from 65 RT-qPCR confirmed SARS-CoV-2-infected individuals, we show seroconversion in >95% of cases and neutralizing antibody (nAb) responses when sampled beyond 8 days POS. We demonstrate that the magnitude of the nAb response is dependent upon the disease severity, but this

does not affect the kinetics of the nAb response. Declining nAb titres were observed during the follow up period. Whilst some individuals with high peak ID50 (>10,000) maintained titres >1,000 at >60 days POS, some with lower peak ID50 had titres approaching baseline within the follow up period. A similar decline in nAb titres was also observed in a cohort of seropositive healthcare workers from Guy's and St Thomas' Hospitals. We suggest that this transient nAb response is a feature shared by both a SARS-CoV-2 infection that causes low disease severity and the circulating seasonal coronaviruses that are associated with common colds. This study has important implications when considering widespread serological testing, Ab protection against re-infection with SARS-CoV-2 and the durability of vaccine protection."

[medRxiv](#): SARS-CoV-2 Seroprevalence Rates of Children in Louisiana During the State Stay at Home Order (posted 08 July 2020)

"Children (less than 19 years) account for 20% of the US population but currently represent less than 2% of coronavirus disease 2019 (COVID-19) cases. Because infected children often have few or no symptoms and may not be tested, the extent of infection in children is poorly understood.

During the March 18th-May 15th 2020 Louisiana Stay At Home Order, 1690 blood samples from 812 individuals from a Childrens Hospital were tested for antibodies to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spike protein. Demographics, COVID-19 testing, and clinical presentation abstracted from medical records were compared with local COVID-19 cases.

In total, 62 subjects (7.6%) were found to be seropositive. The median age was 11 years with 50.4% female. The presenting complaint of seropositive patients was chronic illness (43.5%). Only 18.2% had a previous positive COVID-19 PCR or antibody test. Seropositivity was significantly associated with parish (counties), race, and residence in a low-income area. Importantly, seropositivity was linearly correlated with cumulative COVID-19 case number for all ages by parish.

In a large retrospective study, the seropositivity prevalence for SARS-CoV-2 in children in Louisiana during the mandated Stay At Home Order was 7.6%. Residence location, race, and lower socioeconomic factors were linked to more frequent seropositivity in children and correlated to regional COVID-19 case rates. Thus, a significant number of children in Louisiana had SARS-CoV-2 infections that went undetected and unreported and may have contributed to virus transmission."

Upcoming Calls and Webinars

TOPIC: Clinical Management of Multisystem Inflammatory Syndrome in Children (MIS-C) Associated with Coronavirus Disease 2019 (COVID-19)

"During this COCA Call, clinicians will learn about clinical management of multisystem inflammatory syndrome in children (MIS-C) associated with Coronavirus Disease 2019 (COVID-19). Clinicians will share their experiences treating patients with MIS-C, present treatment details from published literature on patients with MIS-C, and provide an overview of the treatment guidelines published by the American College of Rheumatology."

WHEN: Thursday, 16 JULY 2020 1400 – 1500 EDT

FROM: CDC Clinician Outreach and Communication Activity (COCA)

CALL DETAILS: https://emergency.cdc.gov/coca/calls/2020/callinfo_071620.asp

TOPIC: Use of Telemedicine in Alternate Care Sites

"The COVID-19 pandemic and the associated community mitigation efforts enacted have altered the delivery of and access to healthcare across the U.S. Healthcare providers are looking for new and innovative ways to deliver patient care to accommodate social distancing and community mitigation measures. The use of telemedicine has grown significantly in recent months. In addition to being used by outpatient providers, telemedicine plays an integral role in Alternate Care Sites (ACS). ACS are one of many alternate care strategies intended to provide additional hospital surge capacity and capability.

HHS ASPR and ASPR TRACIE are hosting this webinar where speakers will discuss operations, management, and lessons learned from using telemedicine in these settings."

WHEN: Tuesday, 28 JULY 2020 1400 – 1515 EDT

FROM: U.S. Department of Health & Human Services (HHS) Assistant Secretary for Preparedness and Response (ASPR) Technical Resources, Assistance Center, and Information Exchange (TRACIE)

REGISTER: <https://register.gotowebinar.com/register/6169046790557289485>

News in Brief

Three states — California, Florida, and Texas — account for 18% of the world's total of new coronavirus cases ([NYT](#)).

Over 3,000 healthcare workers have died from COVID-19, according to a new report from Amnesty International; the report also raises concerns about unsafe working conditions including lack of personal protection equipment, low pay, long hours, and violence against medical workers in some countries ([Amnesty](#)).

Reopening Issues

Florida set a new pandemic — state and national — record with COVID-19 cases; on Sunday, 12 July, there were 15,300 new coronavirus cases reported in Florida, surpassing New York's record of 12,274 on 04 April during its peak ([Sun Sentinel](#)).

On the same day, New York City marked its first day with no confirmed or probable coronavirus deaths ([WashPo](#)).

Disney's Magic Kingdom and Animal Kingdom parks reopened the same weekend that saw record cases of coronavirus and hospitalizations in Florida ([BuzzFeed](#)).

Modoc County in northeastern California has had zero coronavirus cases. So what's the secret? According to one resident, "When you're shoulder-deep in a cow, you get good at washing your hands" ([Mercury News](#)).

In Mississippi, 1 in 6 state lawmakers, many of whom flouted mask recommendations, have tested positive for coronavirus ([CNN](#)).

Transmission and Testing

The WHO issued a new scientific brief on the different modes of transmission, including aerosolized, for SARS-CoV-2 ([WHO](#)).

Evidence of vertical transmission of the novel coronavirus from mother to child during pregnancy were reported by Italian researchers at an online conference ([Medpage](#)).

Pooling samples could transform coronavirus testing by saving time and resources ([Nature](#)).

Vaccines

A COVID-19 vaccine from BioNTech and Pfizer is expected to seek regulatory approval by the end of the year; if that happens, they expect to make up to 100 million doses by the end of 2020 and another 1.2 billion doses by the end of 2021 ([Reuters](#)).

The coronavirus vaccine race could be hampered by a shortage of medical-grade vials and syringes ([WashPo](#)).

Ripple Effects

For doctors and patients, the pandemic has had a significant emotional toll ([New Yorker](#)).

Global security analysts and experts warn that COVID-19 is creating new opportunities for extremists ([WashPo](#)).

Long Reads

"A New Understanding of Herd Immunity" ([Atlantic](#)).

"Why We're Losing the Battle With Covid-19" ([NYT](#)).

Mmmm... Cake

Is it a cake? Probably, according to this viral video ([Tasty](#)).

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